

REMARKS

Claims 1-4 and 6-35 are pending. Claims 1-4, 6-11, and 23-26 are rejected under 35 U.S.C. § 101. Claims 12-35 are rejected under 35 U.S.C. § 103(a). Claims 1, 12, and 15 are currently amended. Claim 5 is cancelled without prejudice.

Claims 1-4, 6-11, and 23-26 are rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter. Claim 1 is amended to recite "A transmitter producing an ultra-wide-band (UWB) physical layer using time-frequency interleaved (TFI) orthogonal frequency division multiplexing (OFDM) within the 3.1 – 10.6 GHz UWB band." Thus, claim 1 and depending claims 2-4, 6-11, and 23-26 are patentable under 35 U.S.C. § 101 as directed to statutory subject matter.

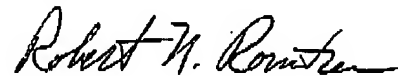
Independent claim 12 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Lakkis (US Pat. No. 7,031,371 A1) in view of Joo (US 2004/0208253 A1). Independent claim 12 is amended to recite "**a band of frequencies divided into contiguous bands of tones; a plurality of OFDM symbols generated by an inverse fast Fourier transform (IFFT) of frequency domain data, each OFDM symbol having a plurality of tones from a respective contiguous band; a data payload of the plurality of OFDM symbols for communication between the transmitter and a receiver, wherein consecutive OFDM symbols use different subsets of tones; one of a cyclic prefix and a cyclic postfix with to the data payload; and a guard interval between the time domain data and said one of a cyclic prefix and a cyclic postfix comprising a plurality of zero samples.**" (emphasis added). At least the foregoing emphasized limitations are not disclosed by either Lakkis or Joo, taken alone or in combination. Thus, claim 12 and depending claims 13-14 and 27-35 are patentable under 35 U.S.C. § 103(a).

Independent claim 15 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Foerster et al. in view of Joo. Independent claim 15 is amended to recite "**providing a band of frequencies divided into contiguous bands of tones; providing a UWB physical layer operational to generate orthogonal frequency division multiplexed (OFDM) symbols within a**

desired band, each OFDM symbol having a plurality of tones from a respective contiguous band, and wherein consecutive OFDM symbols use different subsets of tones; interleaving the OFDM symbols across both time and frequency to divide the desired band into smaller sub-bands; and inserting a guard interval comprising plural zero samples after each OFDM symbol, such that the UWB physical layer has sufficient time to switch from its current channel to the next channel." (emphasis added). At least the foregoing emphasized limitations are not disclosed by either Foerster et al. or Joo, taken alone or in combination. Thus, claim 15 and depending claims 16-22 are patentable under 35 U.S.C. § 103(a).

In view of the foregoing, applicants respectfully request reconsideration and allowance of claims 1-4 and 6-35. If the Examiner finds any issue that is unresolved, please call applicants' attorney by dialing the telephone number printed below.

Respectfully submitted,



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